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## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

June 16, 2011

Mr. Gary Miller, Remedial Project Manager  
U.S. EPA, Region 6  
Superfund Division (6SF-RA)  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202-2733

Re: *Draft Proposed Plan*, dated June 2011  
Gulfco Marine Maintenance Federal Superfund Site  
Freeport, Brazoria County, TX

Dear Mr. Miller:

The Texas Commission on Environmental Quality (TCEQ) Remediation and Toxicology Divisions have completed the review of the *Draft Proposed Plan (Plan)* dated June 2011 for the Gulfco Marine Maintenance Federal Superfund Site. The TCEQ's comments and recommended corrections are attached.

If you have any questions, please contact Chuck Stone at (512)239-5825 or myself at (512)239-6368.

Sincerely,

A handwritten signature in black ink, appearing to read "Ludmila Voskov".

Ludmila Voskov, P.G., Project Manager  
Superfund Section  
Remediation Division

LV/LV/cw

cc: Chuck Stone, TCEQ, Remediation Division

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## ATTACHMENT

The TCEQ comments on the Draft Proposed Plan dated June 2011 for the Gulfco Marine Maintenance Federal Superfund Site (Gulfco) are in red text with excerpts from the Draft Proposed Plan in italics.

### Page 1

#### **Section: Preliminary Recommendation**

*The EPA's preliminary recommendation for the Site is the implementation of Alternative 2 (Ground Water **Controls** and Monitoring).*

Comment: It is not clear what controls exist in the Alternative. There is a groundwater **prohibition** (an institutional control). Please clarify.

*3) annual ground water monitoring, and as a part of the Five-Year Reviews, to confirm continued stability of the affected ground water plume and demonstrate the occurrence of through natural biodegradation and other processes...*

### Page 2

#### **Section: Public Meeting and Comment Period**

*The EPA, in consultation and concurrence with the TCEQ, will issue a **Record of Decision** for the Site...*

#### **Section: Statutory and Regulatory Authority**

*The TCEQ is the As the support agency, the TCEQ provides management assistance to the EPA.*

### Page 4

#### **Section: Previous Investigations**

*The Texas Water Commission (TWC), a predecessor of the TCEQ,*

*The impoundments were capped with three ft of clay and a **hard-wearing surface**.*

Comment: "hard-wearing surface" needs to be described and clarified to the public. Is it an oyster shell layer?

### Page 6

#### **Section: Nature and Extent of Contamination**

Comment: In the list of the investigated media, ground water needs to be included.

*For the Site ground water investigation, monitoring wells, and temporary and permanent piezometers, and soil borings were installed throughout the Site were also excavated during the Remedial Investigation.*

**Page 10, second column, first paragraph**

**Section: Ground Water**

*Thus, the ground water data from these wells are consistent with the observation of visible Non-Aqueous Phase Liquids (NAPL) within the soil matrix of the groundwater-bearing unit.*

**Page 10, second column, second paragraph**

**Section: Ground Water**

*However, considering that these migration rates correspond to the furthest extent of potentially observed migration and that NAPL, a potential source of dissolved COIs, was observed in soil cores for monitoring wells located approximately 120.0 to 160.0 ft south of the impoundments, the limited extent of contaminants of interest (COIs) observed in Zone A ground water is consistent with ~~both the low estimated ground water velocity and further reductions in contaminant migration due to biodegradation. The observed dissolved COI plume stability, low ground water velocity, and demonstrated contaminant degradation also predict limited potential for future migration.~~*

**Page 11, first column, second complete paragraph**

*Considering the presence of a significant amount of fine-grained material, such as silt or clay, in the Zone A soils matrix, it is highly unlikely that the chromium, silver, and nickel concentrations detected in ground water samples reflect actual dissolved concentrations in ground water that could be theoretically discharged to surface water.*

**Page 11, first column, third paragraph**

*These concentrations are consistent with the observation of visible NAPL within the soil matrix at the base of Zone B groundwater-bearing unit in the soil core from the boring at this location. ~~The vertical extent of contamination in ground water is limited to Zones A and B.~~*

**Pages 13-14, Human Health Risk Assessment and Summary of Site Risks**

**Comment:** It is unclear from the draft Proposed Plan if the Texas Surface Water Quality Standards (TSWQS) are being used to identify applicable or relevant and appropriate requirements. The Gulfco Site is adjacent to the Intracoastal Waterway, and this portion of the Intracoastal Waterway is a tidal water body. A tidal water body is by definition deemed to be a sustainable fishery (§307.3 (a)(67)). Therefore, surface water concentrations in the Intracoastal Waterway adjacent to the Site should meet the fish-only criteria for human health as specified in the TSWQS (§307.6 (d)(2)(B)).

**Pages 13-14**

**Chemicals of Concern**

Comment: The contaminants of concern list for ground water should include the following constituents: 1,1,1-trichloroethane, 1,2-dichloroethane, benzene, methylene chloride, and tetrachloroethylene.

**Page 17, second column, first paragraph**

**Remedial Action Objectives (RAOs)**

*The RAOs for contaminated ground water are: 1) to ~~verify~~confirm, on an ongoing basis, the ~~continued~~ stability of the VOC and SVOC plumes in Zones A and B, both in terms of lateral extent, and the absence of impacts above screening levels to underlying groundwater-bearing units...*

**Page 17, second column, third paragraph**

*This conclusion is based on the continued stability of the current COI plume, both in terms of lateral extent in Zones A and B and the absence of COIs in deeper water-bearing units.*

**Page 18, Alternative 2**

**Groundwater Controls and Monitoring**

Under Alternative 2 (Ground Water **Controls** and Monitoring)

Comment: It is not clear what **controls** exist in the Alternative. There is a groundwater **prohibition** (an institutional control). Please clarify.

*3) annual ground water monitoring, and as a part of the Five-Year Reviews, to confirm ~~continued~~ stability of the affected VOC and SVOC ground water plumes and demonstrate the occurrence of ~~through~~ natural biodegradation and other processes, as well as an evaluation of additional measures to address the RAOs...*

**Page 19, second paragraph**

**Overall protection of Human Health and the Environment**

*Alternative 2 provides overall protection of human health and the environment. It addresses the RAO of ~~verifying~~ confirming the ~~continued~~ stability of the affected ground water plume through ground water monitoring. It addresses the RAO of maintaining protection against potential exposures to VOCs at levels posing an unacceptable risk via the ground water to indoor air pathway by using the monitoring component to identify if any plume expansion is occurring and then provides for modification of the restrictive covenants as necessary to provide protection against potential exposures via the ground water to indoor air vapor intrusion pathway.*

**Page 20, second paragraph**

*The resultant risks, if any, that might occur should the monitoring program fail to detect any plume expansion would be expected to be minor, given the limited extent of contaminant migration ~~observed during the 27 to 38 years~~ since operation and closure of the former surface impoundments; and the relatively the low ground water velocity at the Site, ~~and the observed natural biodegradation of the ground water COIs.~~*

*Potential habitat impacts from the annual ground water monitoring events would be expected to be minimal.*

**Page 20**

**Reduction of Toxicity, Mobility, and Volume through Treatment**

*Under all three alternatives, ~~the currently observed~~ natural biodegradation of COIs in Site ground water likely provides some reductions in toxicity, mobility, and volume of affected ground water through this intrinsic ~~in-situ~~ treatment.*

*~~The currently observed n~~Natural biodegradation of COIs in Site ground water likely provides some reductions in toxicity, mobility, and volume of affected ground water through this intrinsic in-situ treatment.*

**Page 21**

**State Acceptance**

*The State of Texas (TCEQ) supports the EPA's preliminary recommendation of the implementation of Alternative 2 (Ground Water **Controls** and Monitoring) for the Site. This support is documented in a letter to the EPA dated May ?, 2011.*

Comment: It is not clear what **controls** exist in the Alternative. There is a groundwater **prohibition** (an institutional control). Please clarify.

**Preferred Alternative**

*3) annual ground water monitoring, and as a part of the Five-Year Reviews, to confirm ~~continued~~ stability of the affected ground water plume ~~through and demonstrate the occurrence of~~ natural biodegradation and other processes, as well as an evaluation of additional measures to address the RAOs;*

*For the monitoring component of this alternative, the ~~continued~~ stability of the affected groundwater...*

**Page 22**

*...plume will be ~~verified~~ confirmed by an evaluation of the temporal trends of the primary groundwater COIs which include 1,1,1-TCA; 1,1-DCE; 1,2,3-TCP; 1,2-DCA; benzene; cis-1,2-DCE; methylene chloride; PCE; TCE; and VC; above their respective extent evaluation criteria and their 1% compound solubility limit within perimeter the monitoring wells network. Data*

from monitoring network wells will be used to demonstrate the occurrence of natural attenuation of the groundwater plumes.

*For the purposes of this evaluation, Zone A perimeter monitoring wells will include wells OMW21, NG3MW19, ND4MW03, NB4MW18, NC2MW28, and OMW20. Zone B perimeter monitoring wells will include OMW27B, NG3MW25B, NE4MW31B, and ND4MW24B.*

For the purpose of evaluating the stability of ground water concentrations and the 1% aqueous solubility limit, and demonstrating groundwater natural biodegradation in Zone A, the monitoring network will comprise wells ND2MW01, ND3MW02, ND3MW29, ND4MW03, NE1MW04, NE3MW05, and OMW20. The Zone B monitoring network will comprise wells NE3MW30B, NE4MW31B, NG3MW25B, and OMW27B.

Comment: The network wells need to be redefined in order to fulfill the stated monitoring objectives.

*Should such trend analyses indicate a statistically significant increase (SSI), additional sampling will be performed at the indicated location within thirty (30) days of determination of the SSI to confirm the trend.*

Comment: the specifics of what constitutes a “statistically significant increase” must be determined now.

*Should a confirmed SSI be indicated, then an evaluation of ~~possible apparent~~ plume expansion will be performed by the installation of one or more additional monitoring wells outward from the affected well, or wells, as necessary, to **bound the plume to the appropriate extent evaluation comparison values.***

Comment: restate the bolded language (above).

REPLACE this:

*Although not used for the temporal trend analysis and contingent evaluation of plume stability, sampling and analysis of monitoring wells NE1MW04, NF2MW06, ND3MW29, NE4MW30B, and NE4MW32C will also be performed.*

WITH following:

Additionally, sampling and analysis of monitoring wells ND4MW24B, NE4MW32C, NF2MW06 and OMW21 also will be performed.

Comment: The total number of monitoring wells in the revised network is the same as that originally proposed by EPA.

## **Pages 22-23**

### **State Agency Support**

*The State of Texas (TCEQ) supports the EPA’s preliminary recommendation of the implementation of Alternative 2 (Ground Water Controls and Monitoring) for the Site since the previous Removal Action eliminated the existing and potential risks to human health and the environment, except for the vapor intrusion pathway. The TCEQ also supports the EPA’s*

Mr. Gary Miller, Remedial Project Manager  
Draft Proposed Plan  
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June 16, 2011

*Preferred Alternative because it will address the RAOs for the ground water and non-aqueous phase liquids, is cost-effective, and the remedy's costs are proportional to its overall effectiveness. Additionally, the Human Health Risk and Ecological Risk Assessments concluded that current or potential future Site conditions pose no unacceptable risks to human health or to the environment, respectively.*